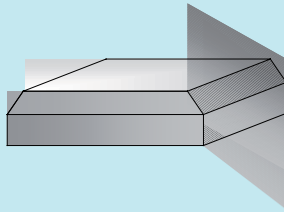
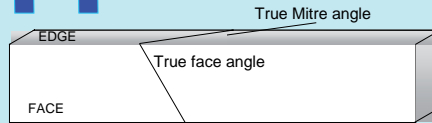
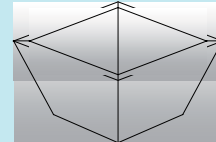


Hopper bevels

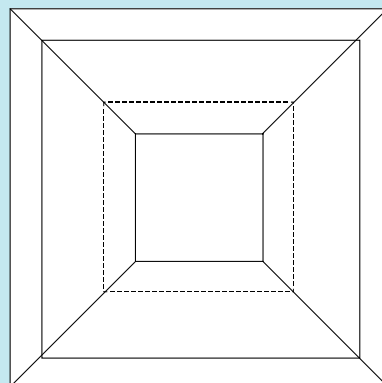
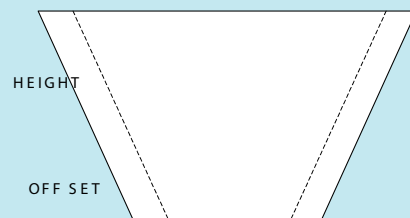


Hopper bevels are made up of Compound Mitres. These are angled on both the face and the edge of boards as in the hopper exercise used in this Presentation



Compound mitres are often used in Shop display fittings, to form sloping window beds and display units.

Some times the display item has more than four sides. This makes it a little more difficult, but setting out the angles uses the same theory.

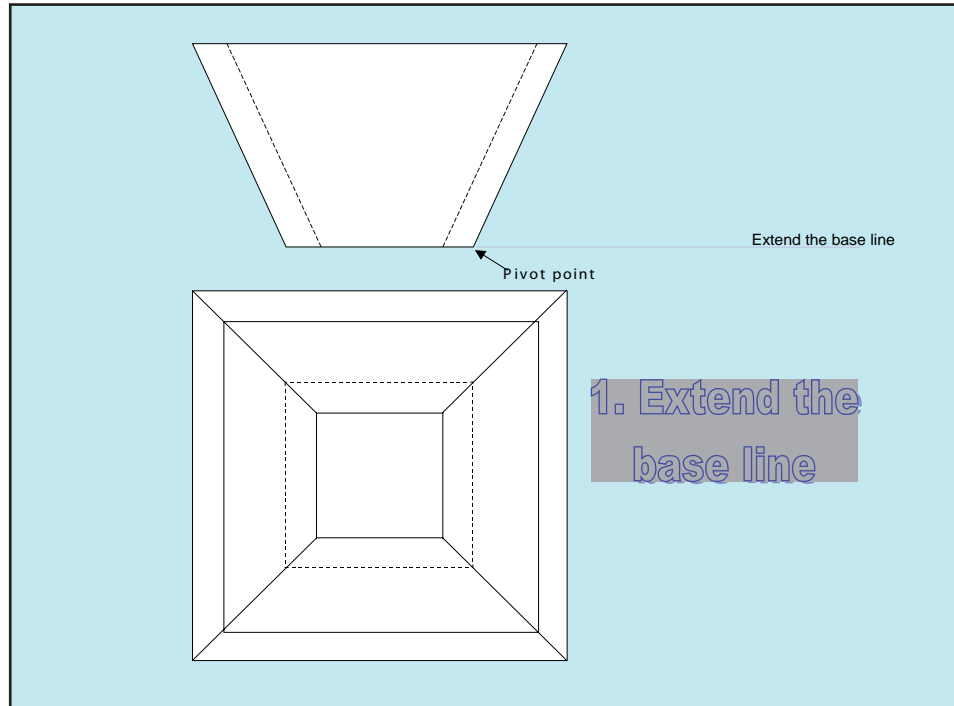


First Draw an elevation and plan view of the hopper

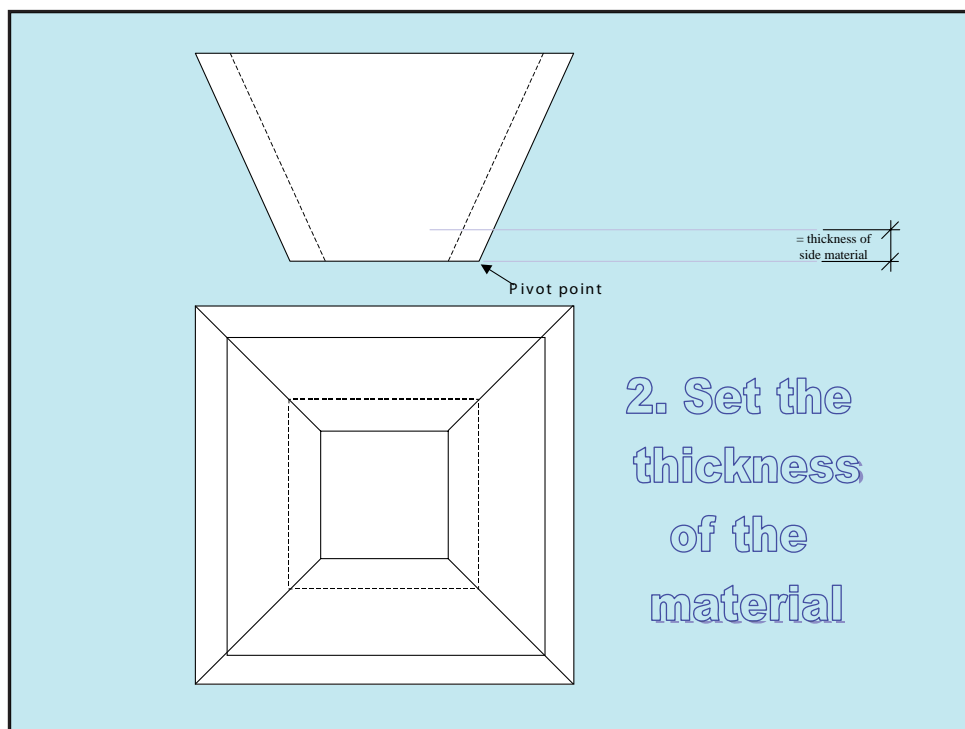
See your trainer for the sizes of the hopper. It will have a height and off set. The offset is the distance the hopper is tilted out or in.

If the corners on the hopper are all the same. When setting out for the angles and bevels you will only need to draw one corner. You need to get the the vertical height and off set correct.

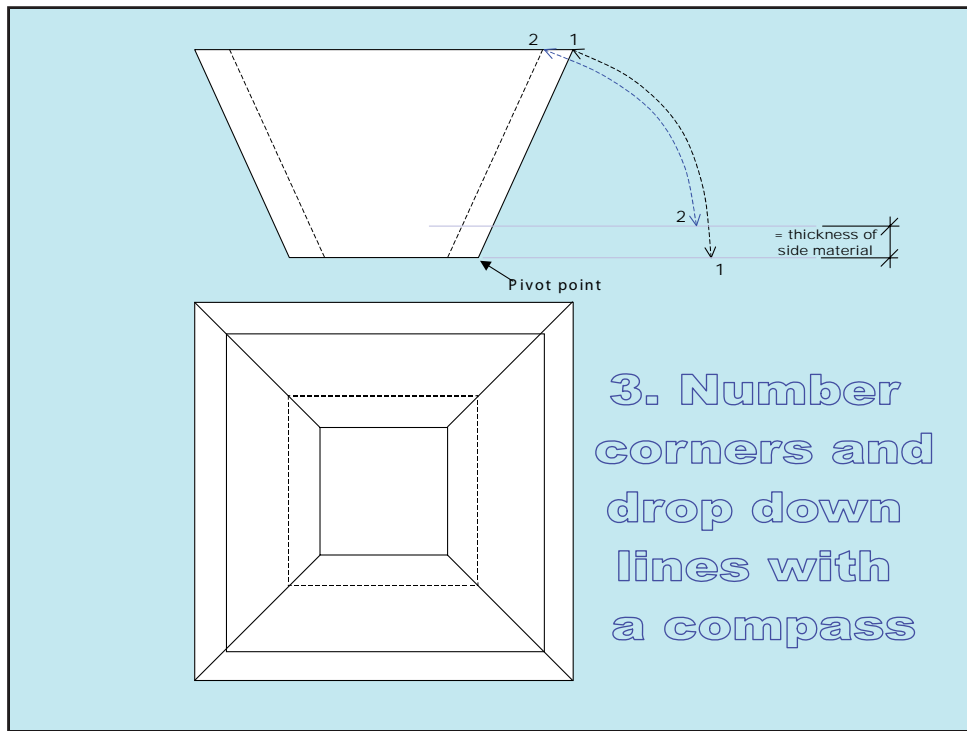
The offset is the tilt in or out of the side.



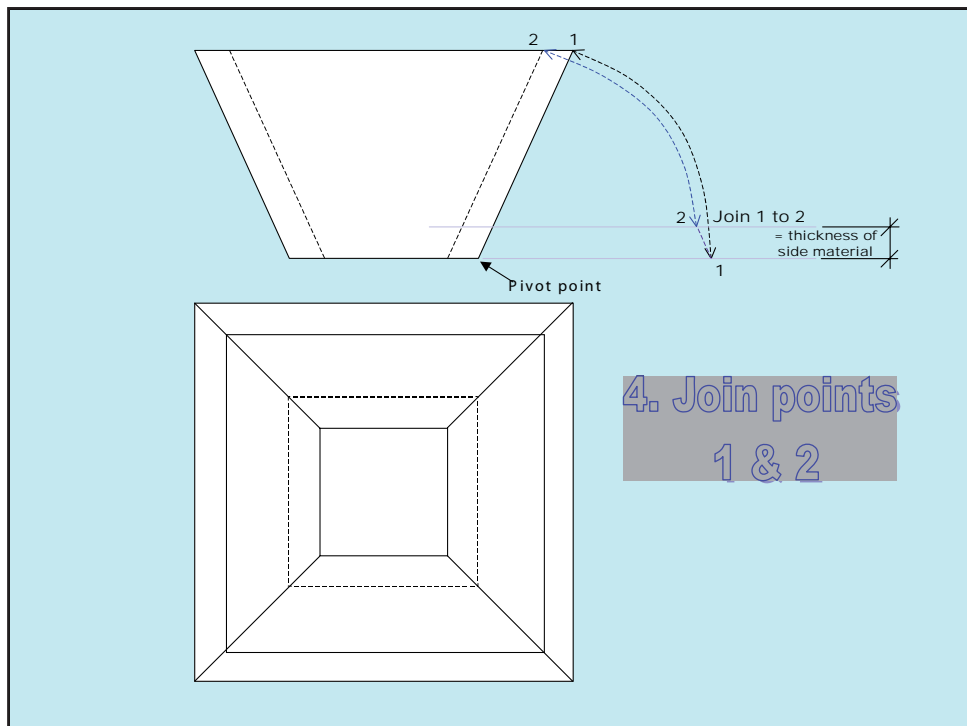
1. Extend the base line from the pivot point using a “T” square. Make sure it is long enough.



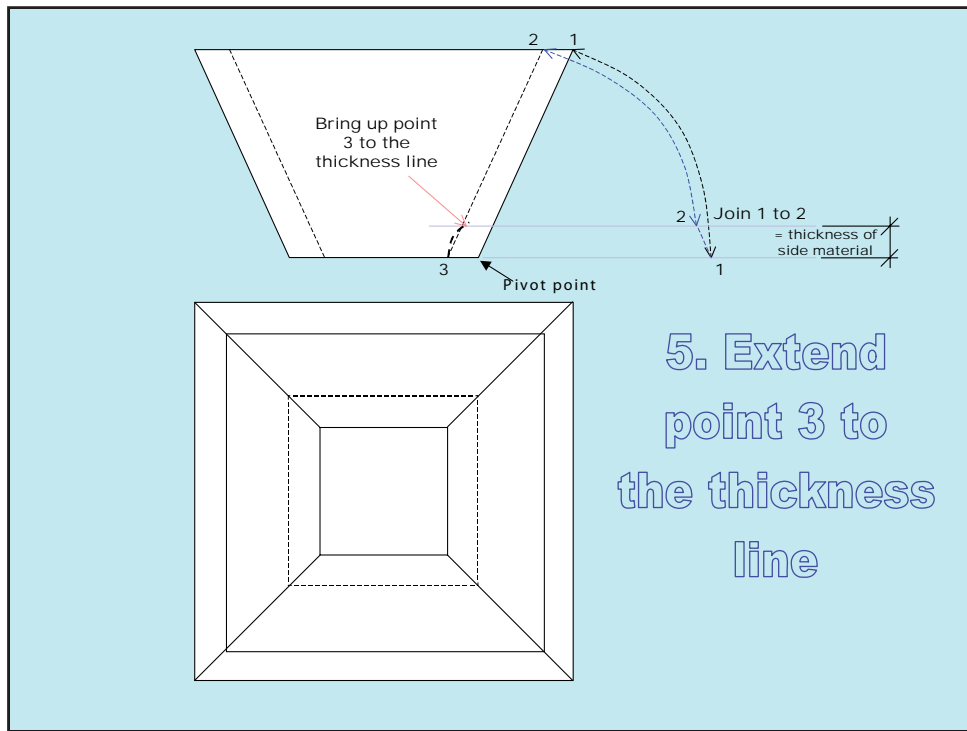
2. Measure up from the base line the thickness of material and with a “T” square mark in the thickness of the material.



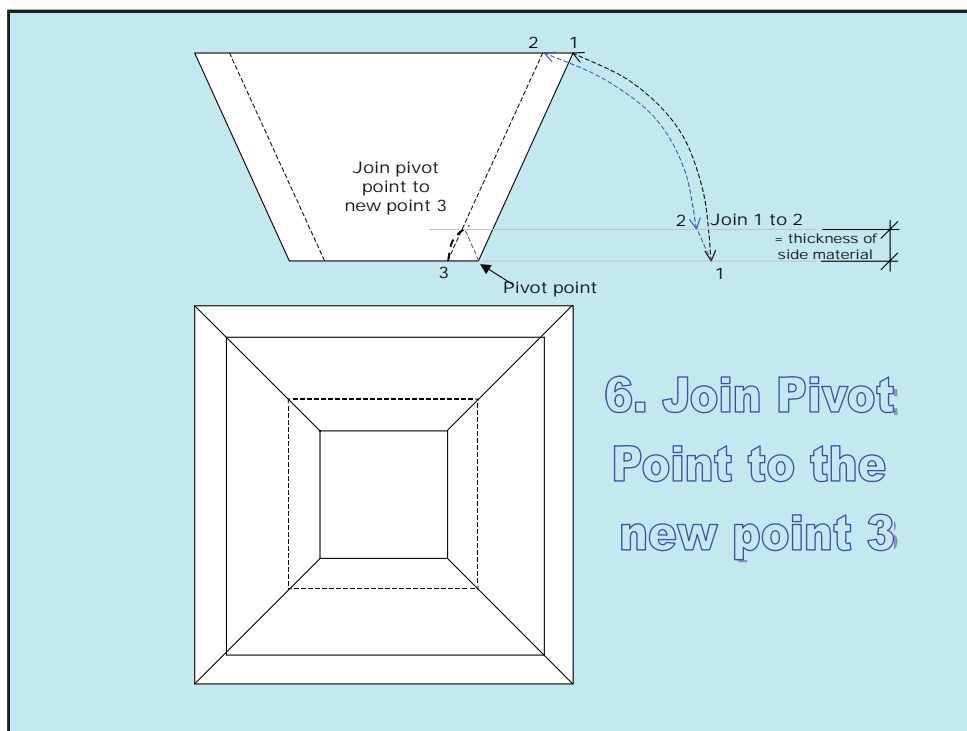
3. Number the corners. Then use a compass from the pivot point extended to point 1 to mark a curve down to the base line.



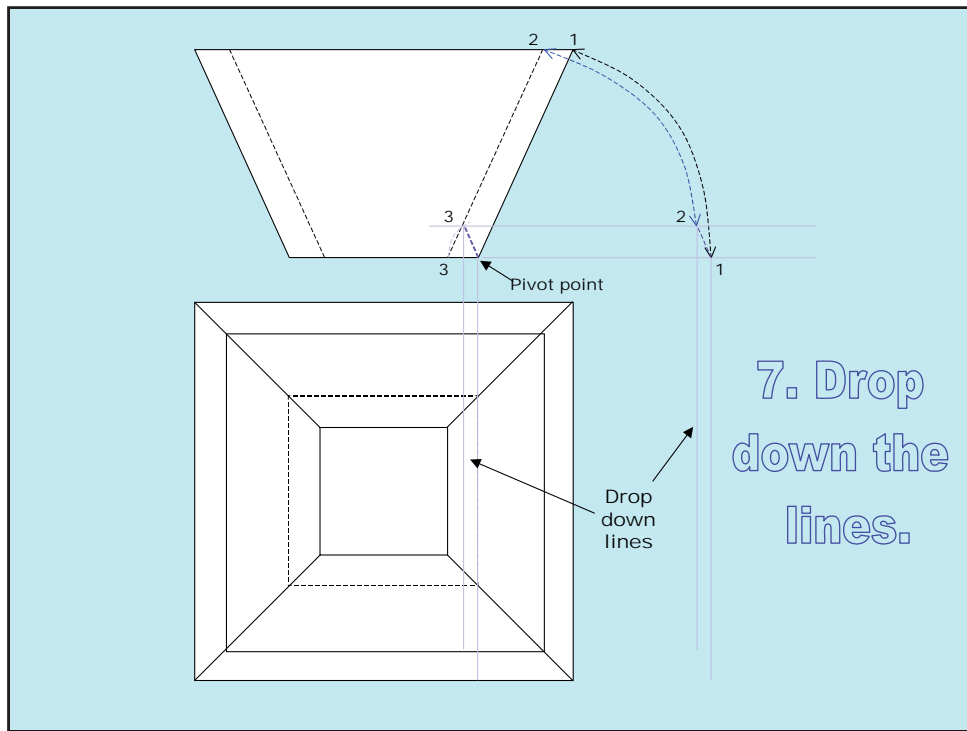
4. Keeping the compass point at the pivot point extend the compass to point 2 and mark a curved line down to the thickness of the base line



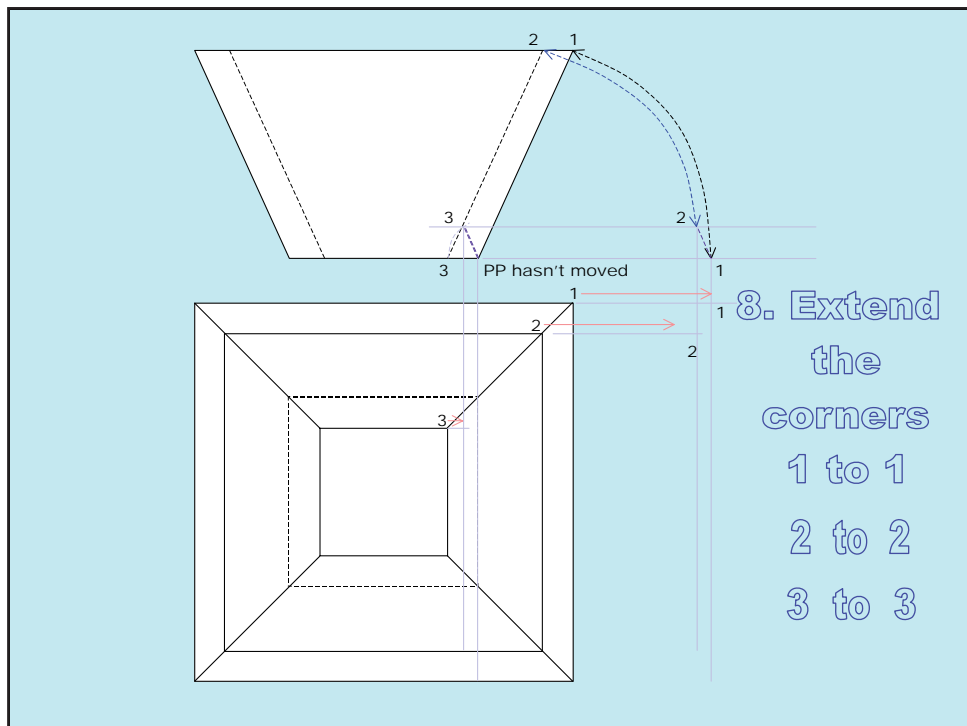
5. From the base line join the new points 1 & 2.



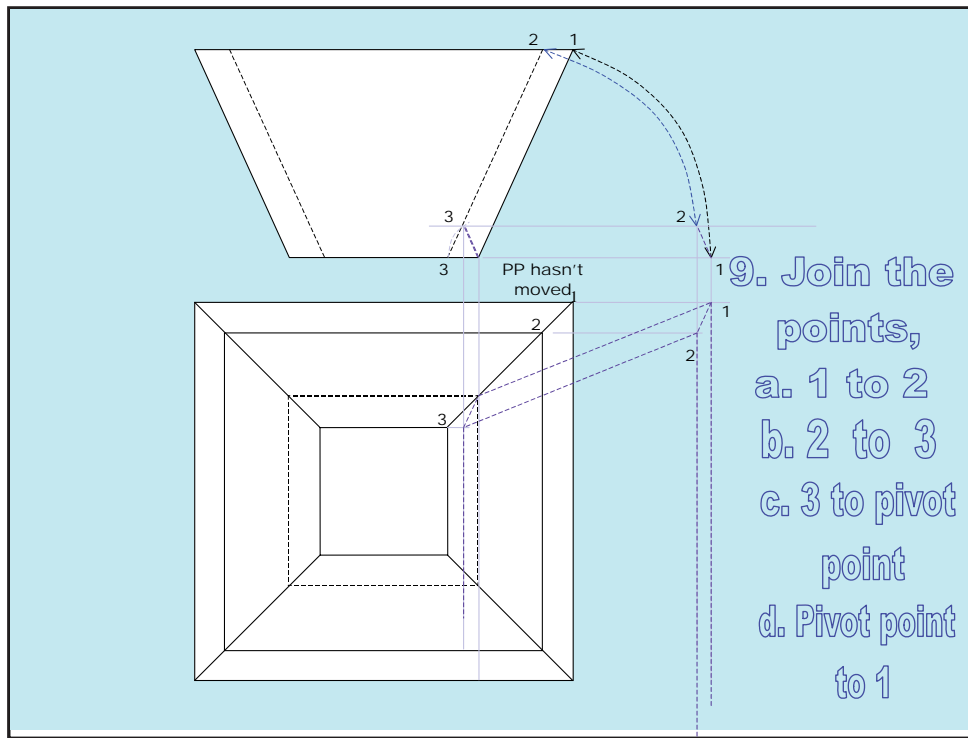
6. Using a compass again from the pivot point extend it out to point 3 and rotate it up to the thickness line.
- Note:** be very careful, sometimes it can be difficult to locate the new point 3 accurately.



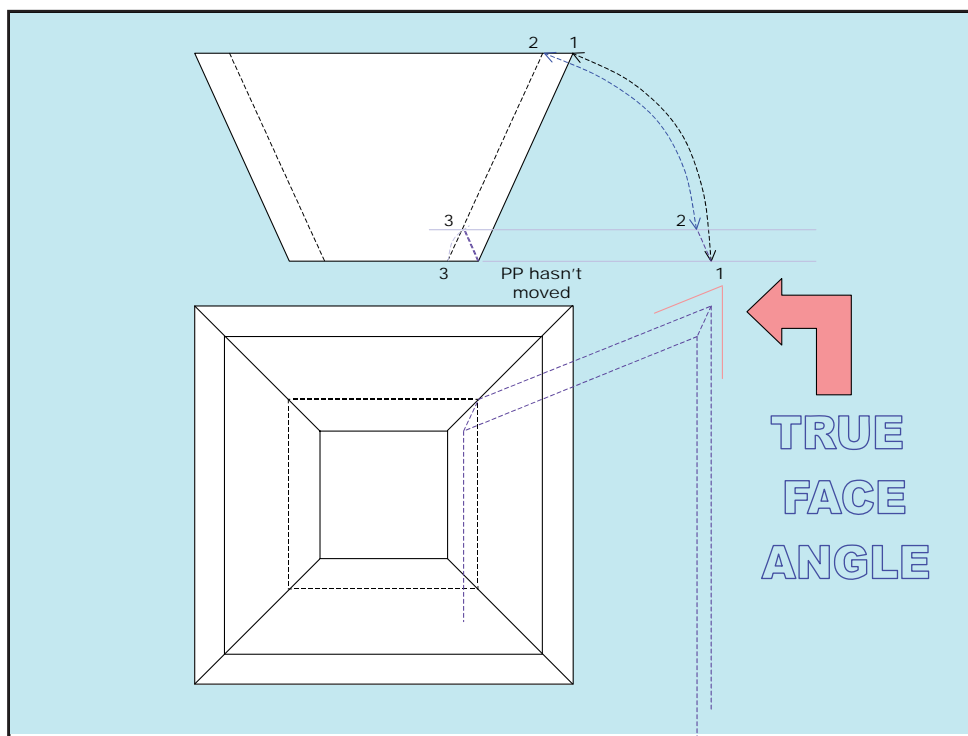
7. Join the pivot point to the new point three. This line should be parallel to the line 1.2. If its not you will have trouble setting out the correct mitre angle.



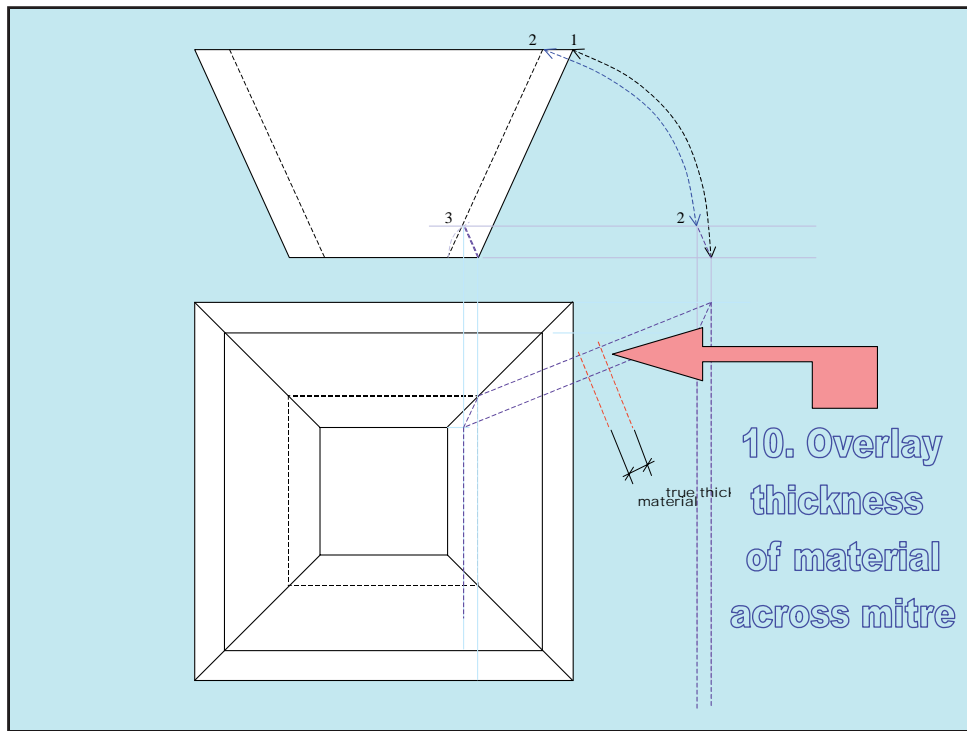
8. From the newly established points 1, 2 & 3 drop vertical lines down.
Note: all corners have been numbered.



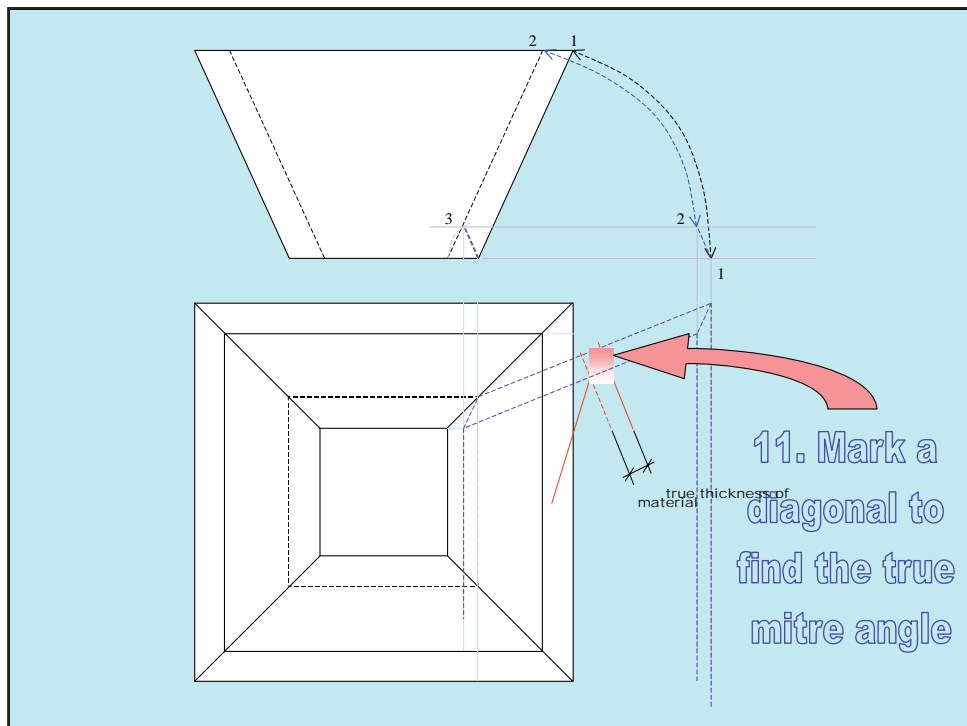
9. Join up the points 1 to 2, then 2 to 3 then 3 to the pivot point and finally from the pivot point back to the start at point 1.



You have now developed the true face angle. This is the angle that is marked across the face of the material. You can also set the mitre fence on the sliding table saw to this angle using angle measurements or a sliding bevel.



10. Overlay the true thickness of the material across the plan view of the mitre at 90° to the plan view of the mitre. You should have a slight rectangle **NOT** a square if you have been accurate.



11. Mark a diagonal to find the true mitre angle.
 Extend the lines to make it easier to set up a sliding bevel and get an accurate mitre angle. This is the angle that the saw blade on the table saw is set to.